

**ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
AIR QUALITY CONSTRUCTION PERMIT**

Permit No. 172CP01

Final – September 10, 2002

**Phillips Alaska, Inc.
Kuparuk Seawater Treatment Plant
Permit Revisions Pertaining to Emission Limits**

The Department of Environmental Conservation, under the authority of AS 46.03, AS 46.14, AS 46.40, 6 AAC 50, 18 AAC 15, and 18 AAC 50.315, issues an Air Quality Construction Permit to:

Owner(s):

Phillips Alaska Inc.
700 G Street
P.O. Box 100360
Anchorage, AK 99510-0360

Exxon Company, USA
800 Bell Street, Room 2917
P.O. Box 2180
Houston, TX 77252-2180

BP Exploration (Alaska) Inc
900 E. Benson Blvd
P.O. Box 196612
Anchorage, AK 99519-6612

Union Oil Company of California
909 West 9th Ave
P.O. Box 190247
Anchorage, AK 99519-0247

Chevron USA Production Co.
P.O. Box 1635
Houston, TX 77251

Mobil Oil Corporation
12450 Greenspoint Drive
Houston, TX 77060-1991

The Department authorizes the following revisions to Operating Permit No. 9373-AA008:

- the rated capacity for the equipment listed in Exhibit A;
- the short-term and annual emission limits for equipment listed in Exhibit B; and
- the minor modifications for monitoring listed in Exhibit C.

in accordance with the terms and conditions of this permit, and as described in the original permit application. This permit also authorizes the Permittee to operate the proposed equipment as provided by AS 46.14.120.

John F. Kuterbach, Manager
Air Permits Program

Date

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PERMIT TERMS AND CONDITIONS

A. 18 AAC 50.340(i): Permit Continuity

1. This permit rescinds and replaces Air Quality Control Permit to Operate No. 9373-AA008 as amended through December 16, 1996.
2. Except as provided herein, the requirements contained in Air Quality Control Permit to Operate 9673-AA007, as amended and revised through December 16, 1996, remain in effect until superseded by an Operating Permit issued under AS 46.14.170.
3. Exhibit A in this permit is a revision to Exhibit A, Source Inventory, of Air Quality Control Permit to Operate No. 9373-AA008, to incorporate modifications.
4. Exhibit B in this permit is a revision to Exhibit B, Air Contaminant Emission Limits, Standards, Fuel Specifications, and Operating Limits, of Air Quality Control Permit to Operate No. 9373-AA008, to incorporate modifications.
5. Exhibit C in this permit is a revision of Exhibit C, Process Monitoring Requirements, of Air Quality Control Permit to Operate No. 9373-AA008, to incorporate modifications.

B. Record Keeping Conditions

6. The Permittee shall keep records of required monitoring data and support information for at least five years after the date of the collection; support information includes calibration and maintenance records, original strip-chart recordings for continuous monitoring instrumentation, and copies of reports required by this permit. The Permittee shall keep monitoring and compliance records as required by the Clean Air Act and applicable federal air quality regulations.

C. Industrial Process and Fuel-Burning Equipment

7. The Permittee shall comply with 18 AAC 50.055(a)(1) for visible emissions, 18 AAC 50.055(b)(1) for particulate matter emissions, and 18 AAC 50.055(c) for sulfur compound emissions as follows:
 - 7.1 Visible emissions, excluding condensed water vapor, from an industrial process or fuel-burning equipment may not reduce visibility through the exhaust effluent by either
 - a. more than 20% for more than three minutes in any one hour¹, or

¹ For purposes of this permit, the “more than 20% for more than three minutes in any one hour¹” criterion in this condition will no longer be effective when the Air Quality Control (18 AAC 50) regulation package effective 5/3/02 is adopted by the U.S. EPA.

- b. more than 20% averaged over any six consecutive minutes².
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- 7.2 Particulate matter emitted from an industrial process or fuel-burning equipment may not exceed, per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours, 0.05 grains;
 - 7.3 Sulfur compound emissions, expressed as sulfur dioxide, from an industrial process or from fuel-burning equipment may not exceed 500 ppm averaged over a period of three hours.

² The six-minute average standard is enforceable only by the state until 18 AAC 50.055(a)(1), dated May 3, 2002, is approved by EPA into the SIP at which time this standard becomes federally enforceable.

EXHIBIT A
Source Inventory

Permittee is authorized under this permit to construct the following stationary sources. The design rating and capacity as set out in this exhibit is only for the purpose of aiding in the field identification of the equipment.

Equipment Tag No.	Rating in AQCP to Operate No. 9373-AA008	Revised Rating	Explanation
Gas Turbines			
G-CJ33-A G-CJ33-B	4,900 hp (each)	No change	Not needed
Gas-Fired Heaters			
H-CJ31-A H-CJ31-B H-CJ31-C	100 MMBtu/hr (each)	90 MMBtu/hr (each)	Correct maximum rating. Revisions reflect maximum heat release values.
Diesel-Fired Engines			
G-CJ35 P-CK31A	1,068 hp 100 hp	1,006 hp 99 hp	New information. Correct maximum rating.

EXHIBIT B

Air Contaminant BACT Emission Limits, Standards, Fuel Specifications, and Operating Limits

Permittee shall operate each source in compliance with the applicable emission standards specified by 18 AAC 50.040-060, by an applicable federal New Source Performance Standard or National Emission Standard for Hazardous Air Pollutants, by limits established as the result of a BACT or LAER determination, or the requested emission limits, standards, fuel specifications, and operating limits listed below, whichever is most stringent. All emission limitations are annual average, unless otherwise noted.

Source Group: EGT (Ruston) TB5000 Turbines G-CJ33-A and G-CJ33-B

Pollutant	Rating in AQCP to Operate No. 9373-AA008	Revised Limit	Explanation
NO _x	102 ppm	Add turbine group ton per year limit of 186 tons	Ton per year limit established by EPA PSD BACT and 10/7/97 permit revision.
SO ₂	200 ppm H ₂ S in fuel	Add turbine group ton per year limit of 14 tons.	EPA PSD BACT and 10/7/97 permit revision.
CO	None	Add limits of 0.17 lb/MMBtu and turbine group ton per year limit of 76 tons.	EPA PSD BACT and 10/7/97 permit revision.
PM	None	Add turbine group ton per year limit of 6.4 tons.	EPA PSD BACT and 10/7/97 permit revision.
Opacity	20%, 3 min/hr	Add limit of 10%, 6 min/hr	EPA PSD BACT and 10/7/97 permit revision.
VOC	None	Add turbine group ton per year limit of 1.0 tons.	EPA PSD BACT and 10/7/97 permit revision.

- 1) All turbine group emission limits for NO_x refer to full load, ISO conditions.
- 2) All other emission limits refer to full load, standard conditions.

Source Group: John Zink Heaters H-CJ31-A, H-CJ31-B, H-CJ31-C

Pollutant	Rating in AQCP to Operate No. 9373-AA008	Revised Limit	Explanation
NO _x	0.08 lb/MMBtu	Add heater group ton per year limit of 105 tons.	EPA PSD BACT and 10/7/97 permit revision.
SO ₂	200 ppm H ₂ S in fuel	Add heater group ton per year limit of 36 tons.	EPA PSD BACT and 10/7/97 permit revision.
CO	None	Add limits of 0.061 lb/MMBtu and heater group ton per year limit of 81 tons.	EPA PSD BACT and 10/7/97 permit revision.
PM	None	Add heater group ton per year limit of 14 tons.	EPA PSD BACT and 10/7/97 permit revision.
Opacity	20%, 3 min/hr	Add limit of 10%, 6 min/hr	ADEC 1985 BACT

- 1) All emission limits refer to full load, standard conditions.

EXHIBIT C

Process Monitoring Requirements

Permittee shall install, calibrate, operate, and maintain in good working order air contaminant emissions and process monitoring equipment on the sources described below.

If the Permittee elects to use a CEM for monitoring CO or O₂ on the process heaters, a Quality Assurance Plan must be developed for each continuous emission monitor conforming with 40 CFR Part 60 Appendix B, and The Quality Assurance Handbook for Air Pollution Measurement Systems, Volume III, Sections 3.0.4, 3.0.7, 3.0.9, and 3.0.10 (EPA600/4-77-027b).

An alternate monitoring plan may be proposed by the Permittee for approval by the Manager for Air Quality Permits, located in the Anchorage Office, if it can be shown to accurately ensure continuous compliance with the emission limits and permit conditions.

MONITORING AND REPORTING REQUIREMENTS

Gas Turbines and Heaters Group I & II	A fuel gas meter, which indicates the volume of natural gas consumed in each group, must be installed or other means of estimating fuel consumption must be provided.
Fuel Gas	Determine the sulfur (H ₂ S) content of the natural gas burned as fuel once each month. Acceptable methods are ASTM D-4810-88, ASTM 4913-89, Gas Producers Assn. (GPA) method 2377-86 or an alternative analytical method approved by the Department.
Process Heaters >43 MMBtu/hr	Permittee shall install, maintain, and operate in good working order a CEMS for recording and monitoring flue gas content of CO or O ₂ and shall be installed and calibrated according to 40 CFR Part 60, Appendix B. As an alternative to the installation and operation of the CEM, the Permittee may elect to conduct monitoring of the process heaters not less than once per month.